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Cloud:
Winning in the Cloud and How to avoid losing!

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May 2011

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Cloud – what it is (and what it isn't)

Size and shape of the cloud market

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Defining cloud computing (Briefly, again…)

Defining cloud

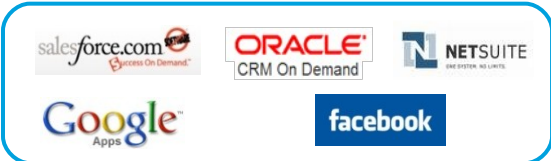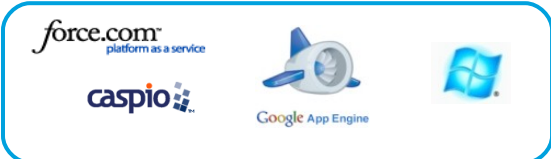## The market says that cloud is…

…on-demand	Cloud can provide almost immediate access to a range of IT services (compute, storage, tools and applications) that can be allocated when needed
…scalable and elastic	Cloud services can scale (up or down) smoothly and rapidly to satisfy changing workload demands
…pay-per-use	Vendor-provided cloud solutions do not require upfront capital investments by the buyer. Billing is tied to metered use of resources
…available from any device	Cloud solutions are typically accessed via a web browser, making them usable on a variety of devices from any internet-connected location

and that cloud is not…

…simply virtualisation	Whilst cloud solutions leverage virtualised infrastructure resources, on-demand provisioning is also required to deliver the required agility
…just best practice IT	The "pay per use" aspects of cloud require appropriate commercial constructs, together with metering and billing mechanisms
…a fad	The cloud market is forecasted to grow significantly, bolstered by a steady stream of new entrants and new clients

Cloud computing categories: Software, Platform, and Infrastructure, each as a "subscription service"

Cloud computing categories can be segmented by type of services

Service type	Description of service	Examples
SaaS	Customers **run finished applications** from the cloud service provider on a subscription basis, with no software license, and limited operational control.	salesforce.com, ORACLE CRM On Demand, NETSUITE, Google Apps, facebook
PaaS	Customers **load and run software** on cloud platforms through a subscription service, without visibility of the underlying server environment.	force.com platform as a service, caspio, Google App Engine
IaaS	Customers **provision servers, storage, and database services** on cloud infrastructure through a subscription service, with direct operational control.	RIGHTSCALE, Eucalyptus, amazon web services, GOGRID beta

Flexible delivery models

Models vary in ownership and technical architectures

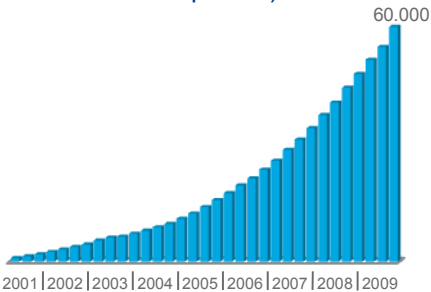|	
Public cloud (External)	Cloud computing services from vendors that can be accessed across the Internet or a private network, using one or more data centers, shared among multiple customers, with varying degrees of data privacy control.
Private cloud (Internal)	Computing architectures modeled after public clouds, yet built, managed, and used internally by an enterprise; uses a shared services model with variable usage of a common pool of virtualised computing resources. Data is controlled within the enterprise.
Hybrid cloud	A mix of public cloud services, internal cloud computing architectures, and classic IT infrastructure, forming a hybrid model that uses the best-of-breed technologies to meet specific needs.
Community cloud	Community clouds are used across organisations that have similar objectives and concerns, allowing for shared infrastructure and services.
Virtual Private	Uses Public cloud IaaS capability and capacity that is virtually dedicated to a single organisation.

Market trends in cloud computing

Cloud Computing usage in the Enterprise is growing rapidly

Software-as-a-Service is leading the move to Cloud Computing

Business Adoption is rising fast…

SalesForce.Com Evolution (# of Customer Companies)

60.000

2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009

Amazon bandwidth use

Amazon Webservices

Amazon Global Websites

2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009

…even in regulated industries

citi

>30,000 Cloud CRM users

P&G

>22 countries cloud contact center

Genentech

>17,000 GMail users

NASDAQ

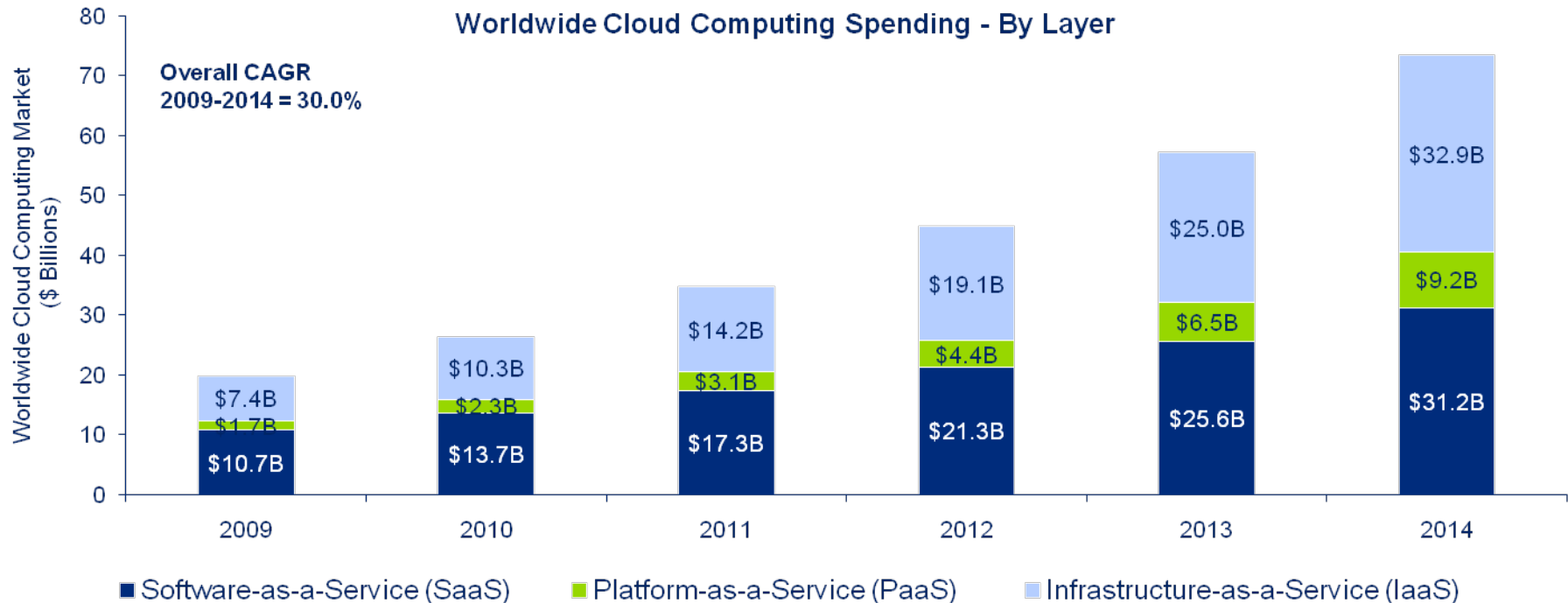Storage of historical transactional data

Lilly

IaaS Computing power

Cloud computing is forecasted to grow in every layer

SaaS dominates the cloud market, but its share will gradually decrease and IaaS is expected to become the biggest segment in 2014

PaaS, now marginal, will grow at CAGR > 40%

Worldwide Cloud Computing Spending - By Layer

Y-axis: Worldwide Cloud Computing Market ($ Billions)

Overall CAGR 2009-2014 = 30.0%

Year	SaaS	PaaS	IaaS
2009	$10.7B	$1.7B	$7.4B
2010	$13.7B	$2.3B	$10.3B
2011	$17.3B	$3.1B	$14.2B
2012	$21.3B	$4.4B	$19.1B
2013	$25.6B	$6.5B	$25.0B
2014	$31.2B	$9.2B	$32.9B

Legend: ■ Software-as-a-Service (SaaS) ■ Platform-as-a-Service (PaaS) ■ Infrastructure-as-a-Service (IaaS)
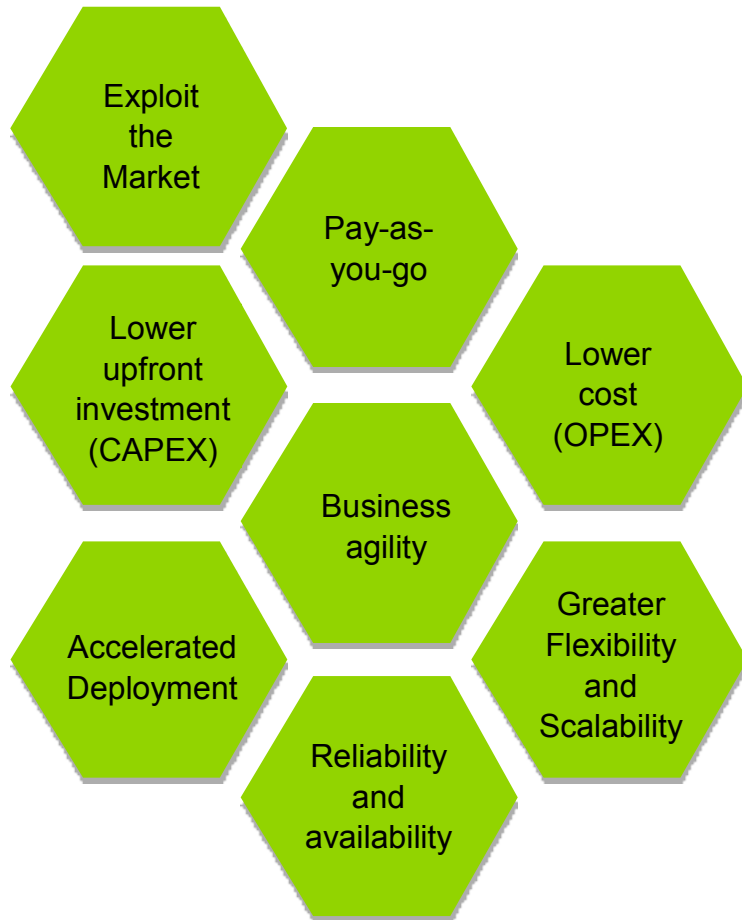
Source: Average of Gartner's and IDC's estimates for worldwide public cloud computing market size
Gartner: Dataquest -- 'Forecast: Public Cloud Services, Worldwide and Regions, Industry Sectors, 2009-2014 (June 2010)'
IDC: 'Worldwide and Regional Public IT Cloud Services 2010–2014 Forecast (June 2010)'

Drivers and inhibitors of cloud computing – how to win and how to avoid losing

Cloud computing has clear advantages …. and concerns

Exploit the Market

Pay-as-you-go

Lower upfront investment (CAPEX)

Lower cost (OPEX)

Business agility

Accelerated Deployment

Greater Flexibility and Scalability

Reliability and availability

Promised benefits

IT and Business Capabilities

Business and Technology buy-in

Data security / Control & Compliance

Legal and regulatory constraints

Is it an easy business case?

Availability and performance

Corporate IT resistance

Inflexible cloud solutions

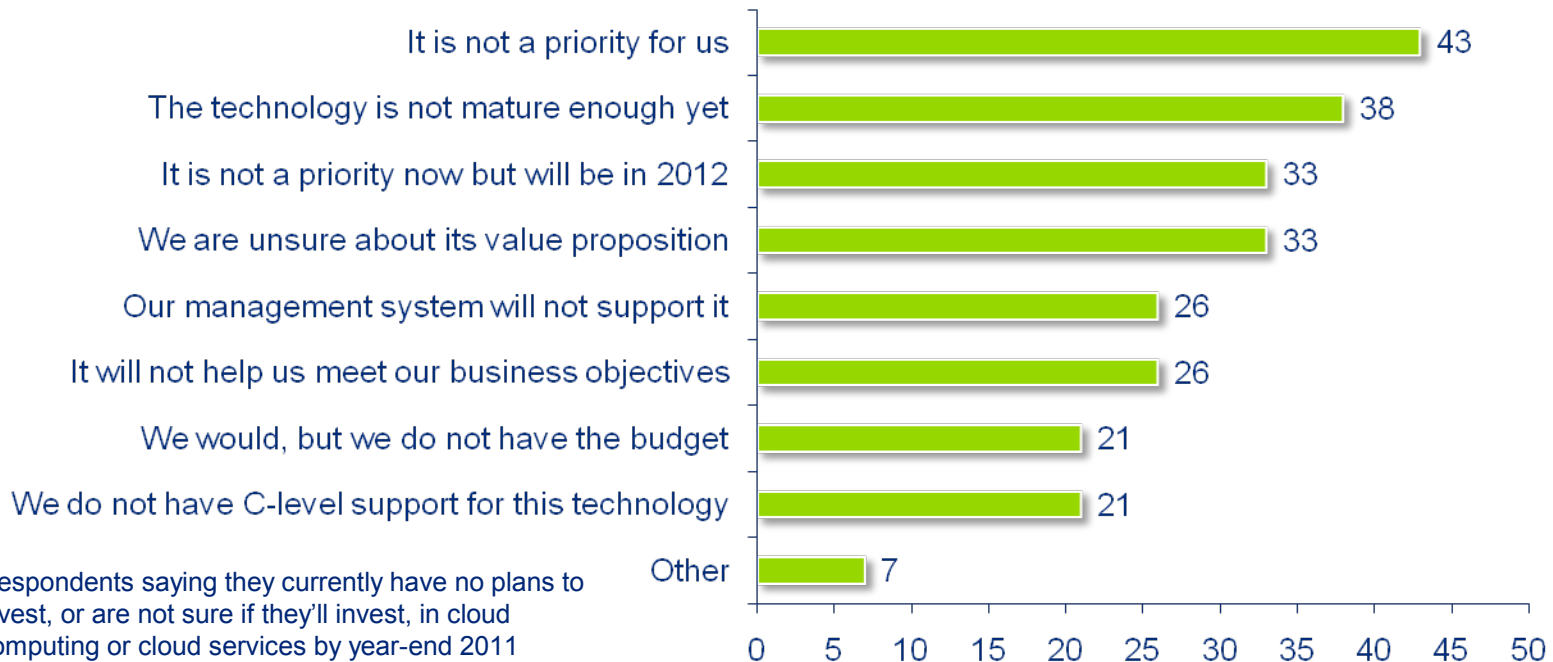**Things to watch to win, and how to avoid losing**

Technology is an issue, but business priorities are crucial

Without understanding and believing in cloud computing benefits:
- it will not become a priority,
- it will not get management support and budget.

What are your organisation's primary reasons for not investing in cloud computing or cloud services by year-end 2011?

Percentage of respondents

Reason	Percentage
It is not a priority for us	43
The technology is not mature enough yet	38
It is not a priority now but will be in 2012	33
We are unsure about its value proposition	33
Our management system will not support it	26
It will not help us meet our business objectives	26
We would, but we do not have the budget	21
We do not have C-level support for this technology	21
Other	7

Base: Respondents saying they currently have no plans to invest, or are not sure if they'll invest, in cloud computing or cloud services by year-end 2011
Source: Gartner (December 2010)

Commercial considerations are key

- Cloud technologies are well proven and understood, but cloud commercial agreements can be immature or downright dangerous

- Sample cloud contract terms:

  - "Supplier can suspend your right to use the service, or terminate the agreement in its entirety, for any reason or no reason, at its discretion at any time with, at most, 60 days notice"

  - "You must indemnify Supplier from all claims relating to your use of Supplier's services, with no limitations on liability"

  - "In the event of a suspension of service, Supplier will not intentionally erase your data (but will not represent that it will preserve it) and can condition return of your data upon your compliance with terms and conditions which may be established in the future"

- Public cloud terms are usually non-negotiable

- Suppliers are keen to ensure that they protect existing revenue streams whilst appearing to be more commercially flexible

Deloitte's perspective on Cloud Computing

- The main components of cloud computing have been well known and applied for years, however it is only recently that technology and social changes have allowed it to become "the next big thing" in IT and business

- The cloud market is expected to grow rapidly and expand in every industry

- There is disruptive potential in the cloud – it brings new opportunities for IT and for business agility and innovation, together with new risks

- Widespread adoption of cloud for core business applications is happening now – the services available are appearing rapidly
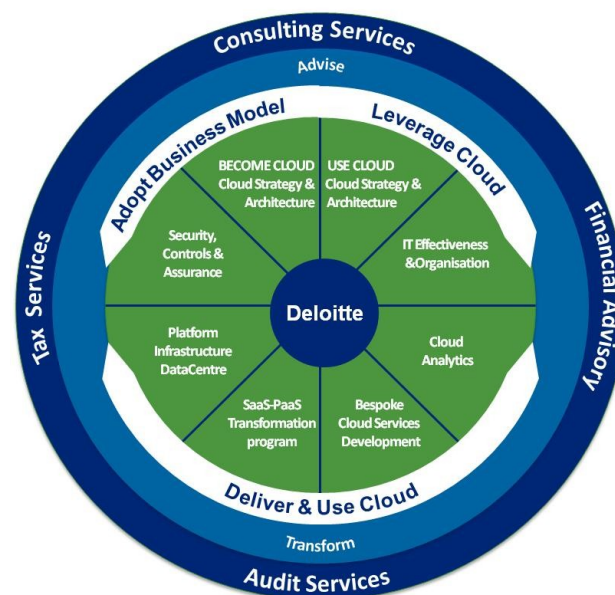
Questions

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